

WHAT IS CLAIMED IS:

1. An apparatus for measuring power of acoustic energy transmitted by an ultrasound transducer, comprising:

a container comprising a fluid having a first density
5 therein;

a buoyant body floating in the fluid, the buoyant body having a second density less than the first density such that the buoyant body floats at a first level in the fluid in the container when the buoyant body is not impacted by acoustic
10 energy, the buoyant body comprising a wave receiving surface, the buoyant body floating at a second level when the wave receiving surface is impacted by acoustic energy transmitted by an ultrasound transducer, a displaced volume of the buoyant body
15 as it moves between the first and second levels being proportional to the power of the acoustic energy.

2. The apparatus of claim 1, further comprising a level indicator outputting one or more signals corresponding to at least one of a level at which the buoyant body floats in the
20 fluid, and a vertical displacement of the buoyant body relative to a reference point.

3. The apparatus of claim 2, wherein the signals output by the level indicator comprises electrical signals, and wherein the apparatus further comprises control circuitry coupled to the level indicator for receiving the signals output by the level indicator, the control circuitry generating control signals in response to the signals for controlling a power of the acoustic energy output by the ultrasound transducer.

4. The apparatus of claim 2, further comprising a transmitter coupled to the level indicator for outputting one or more wireless signals comprising the one or more signals.

5. The apparatus of claim 4, further comprising control circuitry, the control circuitry comprising a receiver for receiving the wireless signal from the transmitter, the control circuitry configured for generating control signals in response to the wireless signals for controlling the power of the acoustic energy output by the ultrasound transducer.

6. The apparatus of claim 1, wherein the container comprises a first fluid comprising the first density, and a second fluid comprising a third density less than the second

density of the buoyant body, the second fluid disposed above the first fluid such that the buoyant body floats at a boundary between the first and second fluids.

5 7. The apparatus of claim 1, wherein the fluid comprises water.

10 8. The apparatus of claim 1, further comprising a level indicator for providing a visual indication of displacement of the buoyant body within the fluid.

15 9. A system for measuring power of acoustic energy of an ultrasound transducer, comprising:

 an ultrasound transducer configured for transmitting
15 acoustic energy towards a target region;

 a container comprising a fluid therein, the container disposed relative to the transducer such that the target region is located at least partially within the fluid in the container;
and

20 a buoyant body floating in the fluid at a first level when the transducer is inactive, the buoyant body comprising a wave receiving surface oriented towards the transducer such that, when

the transducer is activated, acoustic energy transmitted by the transducer strikes the wave receiving surface, causing the buoyant body to float at a second level in the fluid, displacement of the buoyant body between the first and second levels being directly related to the power of the acoustic energy transmitted by the transducer.

10. The system of claim 9, further comprising a level indicator outputting one or more signals corresponding to at least one of a level at which the buoyant body floats in the fluid, and a displacement of the buoyant body relative to a reference point.

11. The system of claim 9, further comprising control circuitry coupled to the level indicator, the control circuitry configured for receiving the signals output by the level indicator, the control circuitry further configured for controlling the power of the acoustic energy transmitted by the transducer in response to the signals.

12. The system of claim 9, wherein the level indicator comprises a transmitter for outputting one or more wireless signals comprising the signals.

5 13. The system of claim 12, further comprising a receiver coupled to the control circuitry, the receiver configured for receiving the wireless signals from the transmitter, thereby coupling the control circuitry to the level indicator.

10 14. The system of claim 9, wherein the transducer is disposed within a casing comprising a membrane, and wherein the container is disposed on the membrane such that the container is acoustically coupled to the transducer.

15 15. The system of claim 9, further comprising a level indicator for providing a visual indication of displacement of the buoyant body within the fluid.

20 16. A method of measuring power of acoustic energy transmitted by an ultrasound transducer, the method comprising:
providing a buoyant body floating at a first level in a fluid adjacent an ultrasound transducer;

impinging a surface on the buoyant body with acoustic energy from the transducer, thereby causing the buoyant body to float at a second level in the fluid; and

measuring displacement of the buoyant body from the first
5 level to the second level to indicate the power of the acoustic energy impinging the surface of the buoyant body.

17. The method of claim 16, further comprising calibrating the power of acoustic energy transmitted by the transducer by
10 measuring displacement of the buoyant member from the first level to another level caused by a predetermined power of acoustic energy transmitted by the transducer.

18. The method of claim 16, further comprising generating
15 one or more electrical signals indicative of at least one of a level at which the buoyant body floats within the liquid, and a displacement of the buoyant body relative to a reference point.

19. The method of claim 18, further comprising controlling
20 at least one of amplitude, phase, and frequency of the acoustic energy transmitted by the ultrasound transducer in response to the electrical signals.

20. The method of claim 16, wherein the impinging step comprises focusing the acoustic energy towards the surface of the buoyant body.

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21. The method of claim 16, wherein the step of providing a buoyant body comprises acoustically coupling the fluid to the transducer.

10 22. The method of claim 16, wherein the step of providing a buoyant body comprises:

disposing a container adjacent the transducer;

introducing a fluid into the container; and

placing the buoyant body in the fluid such that the buoyant

15 body floats at least partially within the fluid.

23. The method of claim 22, wherein the step of providing a buoyant body further comprises placing a lid over the container such that at least a portion of the buoyant body is exposed
20 through an aperture in the lid.

24. The method of claim 23, wherein the step of measuring displacement comprises observing demarcations on the portion of the buoyant body exposed through the aperture in order to measure the displacement of the buoyant body.

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